Watkins Mfg.
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PART # 70869

HANDI-FOAM® TWO-PART A-CO
A16152-A

Issue Date: 5/94 Last Rev: 05/00-5
Prepared By: T. Eberling

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

Chemical Product

HANDI-FOAM® TWO-PART QUICK-CURE, A-Component
A-Com ponent for two-component polyurethane foam system

Manufacturer

FOMO PRODUCTS, INC.
P. O. Box 1078
Norton, Ohio 44203

Emergency Overview

Product Information: 1-800-321-5585. In Ohio and outside the United States call (330) 753-4585
Transportation Emergency: CHEMTREC 1-800-424-9300. HANDI-FOAM® TWO-PART QUICK-CURE, A-Component is registered by the manufacturer, FOMO PRODUCTS, INC.
International Transportation Emergency: CHEMTREC (703) 527-3887

Product is a urethane foam component that is packaged under pressure (Non-Flammable Compressed Gas). Containers should not be heated above 120°F (49°C) to avoid excessive pressure build-up.

2. COMPOSITION (Hazardous Components)

Chemical Name (common names)	CAS Number	Percentage	LD_{50}	LC_{50}
Fluorocarbon (Non-Flammable Compressed Gas, HCFC	Not Available This Section	10 to 30 percent	N/A	N/A
4,4' - Diphenylmethane Diisocyanate (MDI)	101-68-8	30 to 60 percent	N/A	N/A
Higher Oligomers of MDI (Polymeric MDI)	9016-87-9	30 to 60 percent	N/A	N/A

(NOTE: *See* Section 8 of this MSDS for Exposure Guidelines)

3. HAZARDS IDENTIFICATION

Physical Hazards

Since the containers are pressurized, storage temperature should not exceed 120°F (49°C) in order to avoid excessive pressure build-up and possible container rupture. Also, MDI will react with water to form CO_2 and water insoluble polyureas. This reaction may be vigorous at elevated temperatures and could cause dangerous pressure build-up in tightly closed containers. A-Component has strong adhesive characteristics.

Potential Health Effects

Adverse health effects of this material are related to the concentrations of vapor in the air. Therefore, adequate ventilation and respiratory protection should be provided. Spraying MDI as a mist may increase vapor levels of this material.

Entry Route: Effects of Overexposure

Inhalation: May irritate mucous membranes with tightness in chest, coughing, or allergic asthma-like sensitivity. Extensive overexposure can lead to respiratory symptoms like bronchitis and pulmonary edema. These effects are usually reversible.

Overexposure to fluorocarbon may cause lightheadedness, headaches, or lethargy. Persons with cardiac arrhythmia may be at increased risk in severe exposure.

Skin: May cause localized irritation, reddening or swelling. Prolonged or repeated exposure may lead to sensitization and/or dermatitis.

Eyes: May be irritating to eyes. Foam contact can cause physical damage due to adhesive character.

Ingestion: May cause irritation of mucous membranes in the mouth and digestive tract.

4. FIRST AID

Inhalation: If breathing difficulty is experienced, move to area free of exposure. Provide fresh air. If necessary, provide oxygen or artificial respiration by trained personnel and obtain medical attention.

Eye Contact: Flush with clean water for at least 15 minutes and obtain medical attention.

Skin Contact: Use a rag to remove excess foam from skin and remove contaminated clothing. Use of a mild solvent, such as acetone (nail polish remover) or mineral spirits, may help in removing uncured foam residue from clothing or other surfaces (avoid eye contact). Cured foam may be physically removed by persistent washing with soap and water. If irritation develops, use mild skin cream. If it persists, obtain medical attention.

Ingestion: Do not induce vomiting. Drink 1-2 glasses of water or milk. Consult physician. Do not give anything orally to an unconscious person.

5. FIRE FIGHTING MEASURES

High temperatures will raise the pressure in the containers, which may lead to rupturing. Extinguishing media include: dry chemical, carbon dioxide, halon 1211, chemical foam, or water spray if used in large quantities (water contamination will produce carbon dioxide). Wear self-contained breathing apparatus to protect against toxic decomposition by-products, including CO, CO_2, NO, and traces of HCN or HCL. Cured foam is organic and, therefore, will burn in the presence of sufficient heat, oxygen and ignition source. Main hazards associated with burning foam are similar to burning of other organic materials (wood, paper, cotton, etc.), and precautions against exposure should be taken accordingly. Avoid welding or other "hot work" in vicinity of exposed cured foam.

6. ACCIDENTAL RELEASE MEASURES/DISPOSAL CONSIDERATIONS

Wear skin, eye and respiratory protection. Soak up material with absorbent and shovel into chemical waste container. Loosely cover container. Loosely cover container and remove from work area. Decontaminate waste and spill area with a solution of 0.2 – 0.5% liquid detergent and 3 – 8% concentrated ammonium hydroxide in water (5 – 10% sodium bicarbonate may be substituted for ammonium hydroxide). Use 10 parts of solution for each part of the spill and allow to react for at least 10 minute. Allow loosely covered container to stand for several days before disposing in accordance with all applicable federal, state and local regulations.

Before disposing of containers, relieve container of any remaining pressure and material. Residual liquid may be mixed slowly with equal amount of B-component in well ventilated area in order to form solid, low grade foam.

7. HANDLING AND STORAGE

Store in a cool, dry place. Ideal storage temperature is 60°F to 80°F (15.5°C to 26.6°C). Storage above 90°F (32.2°C) will shorten the shelf life. Protect containers from physical abuse. Protect unused product from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read all product instructions before using. Personal protective equipment should include safety eye wear, chemical resistant gloves, and long sleeve work clothes. Adequate ventilation should also be employed so that vapor levels do not exceed recommended guidelines. If vapor levels are expected to exceed these guidelines, use NIOSH/MSHA approved, positive pressure, supplied air respirator. Exercise good personal hygiene, wash thoroughly after each use.

Exposure Guidelines	OSHA	ACGIH
4,4" – Diphenylmethane Diisocyanate (MDI)	.020 ppm ceiling .200 mg/m^3 ceiling	.005 ppm TWA .051 mg/m^3 TWA
Higher Oligomers of MDI	None Established	None Established
Fluorocarbon (Non-Flammable HCFC)	1,000 ppm TWA	1,000 ppm TWA

(None of the components in this product are listed by IARC, NTP, OSHA or ACGIH as a carcinogen).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Appearance	:	Amber to dark brown liquid. Froths when released from container.
Odor	:	Slightly musty odor.
Specific Gravity	:	Approximately 1.2 ($H_2O = 1$)
Boiling Point	:	Fluorocarbon component (Non-Flammable Gas) boils at less than 0°F (-17.7°C). MDI boils at 406°F (208°C).
Flash Point	:	For MDI; 390°F (199°C). For fluorocarbon; none.
Vapor Pressure	:	Contents under pressure have vapor pressure greater than 50 psig (345 Kpa). For MDI liquid – less than 10mm Hg at 77°F (25°C).
Solubility in Water	:	Insoluble, reacts slowly with water during cure; liberating traces of CO_2.
Explosion Data	:	Contents are not known to be sensitive to mechanical impact or static discharge.

10. STABILITY AND REACTIVITY

This product is considered stable under normal and anticipated storage and handling conditions. Do not store above 120°F (49°C). For longest shelf life, avoid storage above 90°F (32.2°C). Avoid alcohols, strong bases or amines and metal compounds (such as small particle metal catalysts). Avoid contamination with water.

11. TRANSPORTATION

Shipping Information

	Containers Less Than 1000 cu. cm. (1 liter) i.e. II-12, 22, 32	Containers Greater Than 1000 cu. cm. (1 liter) i.e. II-105, 205, 605
Ground	Consumer Commodity ORM-D	Compressed Gas n.o.s. (fluorocarbon) 2.2 UN 1956 (Non-Flammable Gas Label)
Air	Aerosols, Non-Flammable 2.2 UN 1950 (Non-Flammable Gas Label)	Compressed Gas n.o.s. (Fluorocarbon) 2.2 UN 1956 (Non-Flammable Gas Label)
Water	Aerosols, Non-Flammable 2.2 UN 1950 (with a capacity of 1000 cu. cm. or less) (No Hazard Labels Required) Boxes or Cartons should be marked (Aerosols UN 1950) only. IMDG page #2102	Compressed Gas n.o.s. (Fluorocarbon) 2.2 UN 1956 (Non-Flammable Gas Label) IMDG page # 2124
Exceptions	N/A	
Note	Emergency Response Guide Numbers – Consumer Commodity # 171, for Aerosols and Compressed Gas # 126.	

12. REGULATORY

Toxic Substances Control Act (TSCA)/Designated Substances List (DSL):

All ingredients are listed on the TSCA inventory, as well as the Canadian Designated Substances List.

SARA Title III:

Contains Diphenylmethane Diisocyanate (CAS #101-68-8) and Fluorocarbon containing Chlorodifluoromethane (CAS #75-45-6) which are subject to the reporting requirements of SARA Title III.

Proposition 65

Based on information currently available, this product is not known to contain detectable amounts of any chemicals currently listed under California Proposition 65.

13. OTHER

NFPA: **Fire 1; Health 2; Reactivity 1**
HMIS: **Flammability 1; Health 3; Reactivity 1**

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representations or warranties, either expressed or implied, of merchantability or fitness for a particular use are made hereunder with respect to this information or the product to which information refers.

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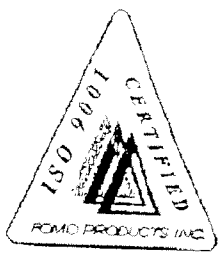

HANDI-FOAM® TWO-PART B-COMPONENT

A16152-B

Issue Date: 5/94 Last Rev: 05/00-4

Prepared By: T. Eberling

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

Chemical Product

HANDI-FOAM® TWO-PART QUICK-CURE, B-Component
B-Component for two-component polyurethane foam system

Manufacturer

FOMO PRODUCTS, INC.
P. O. Box 1078
Norton, Ohio 44203

Emergency Overview

Product Information: 1-800-321-5585. In Ohio and outside the United States call (330) 753-4585
Transportation Emergency: CHEMTREC 1-800-424-9300. HANDI-FOAM® TWO-PART QUICK-CURE, B-Component is registered by the manufacturer, FOMO PRODUCTS, INC.
International Transportation Emergency: CHEMTREC (703) 527-3887

Product is a urethane foam component that is packaged under pressure (Non-Flammable Compressed Gas). Containers should not be heated above 120°F (49°C) to avoid excessive pressure build-up.

2. COMPOSITION (Hazardous Components)

Chemical Name (common names)	CAS Number	Percentage	LD_{50}	LC_{50}
Fluorocarbon (Non-Flammable Compressed Gas, HCFC	Not Available This Section	10 to 30 percent	N/A	N/A

(NOTE: *See* Section 8 of this MSDS for Exposure Guidelines)

3. HAZARDS IDENTIFICATION

Physical Hazards

Since the containers are pressurized, storage temperature should not exceed 120°F (49°C) in order to avoid excessive pressure build-up and possible container rupture. If accidental contact occurs, follow the appropriate first aid procedure described in Section 4 of this MSDS.

Potential Health Effects

The mixture has not been tested. However, it is assumed that the mixture presents the same health hazards as do the components present at a one percent or greater level (Fluorocarbon). Adequate ventilation should be provided to avoid exceeding the exposure limits listed in Section 8 of this MSDS.

Entry Route: Effects of Overexposure

Inhalation: Vapor reduces oxygen available for breathing and is heavier than air. May cause dizziness, headaches, lethargy, etc. Inhalation of high concentrations of vapor is harmful and may cause heart irregularities. Persons with cardiac arrhythmia may be at increased risk in severe exposure.

Skin: May cause localized irritation. Direct, severe, or prolonged exposure may lead to frostbite.

Eyes: May be irritating to eyes.

Ingestion: May be slightly irritating to mucous membranes.

4. FIRST AID

Inhalation: If breathing difficulty is experienced, move to area free of exposure. Provide fresh air. If necessary, provide oxygen or artificial respiration by trained personnel and obtain medical attention.

Eye Contact: Flush with clean water for at least 15 minutes and obtain medical attention.

Skin Contact: Wipe off liquid with a rag or paper towel and wash thoroughly with soap and water. If irritation develops, use a mild skin cream. If irritation persists, obtain medical attention.

Ingestion: Drink 1-2 glasses of water or milk. If B-Component only is ingested, induce vomiting and consult physician.

5. FIRE FIGHTING MEASURES

High temperatures will raise the pressure in the containers, which may lead to rupturing. Extinguishing media include: dry chemical, carbon dioxide, halon 1211, chemical foam, or water spray if used in large quantities (water contamination will produce carbon dioxide). Wear self-contained breathing apparatus to protect against toxic decomposition by-products, including CO, CO_2, NO, and traces of HCN or HCL. Cured foam is organic and, therefore, will burn in the presence of sufficient heat, oxygen and ignition source. Main hazards associated with burning foam are similar to burning of other organic materials (wood, paper, cotton, etc.), and precautions against exposure should be taken accordingly. Avoid welding or other "hot work" in vicinity of exposed cured foam.

6. ACCIDENTAL RELEASE MEASURES/DISPOSAL CONSIDERATIONS

Provide ventilation and isolate area. Absorb spill with sawdust or vermiculite and dispose of in accordance with all applicable federal, state, and local regulations. Wash spill area thoroughly with soap and water. Avoid uncontrolled reactions with isocyanates (such as HANDI-FOAM® A-Component).

Before disposing of containers, relieve container of any remaining pressure and contents. Liquid residue may be mixed slowly with equal amount of A-component in well ventilated area in order to form solid, low grade foam.

11. TRANSPORTATION

Shipping Information

	Containers Less Than 1000 cu. cm. (1 liter) i.e. II-12, 22, 32	Containers Greater Than 1000 cu. cm. (1 liter) i.e. II-105, 205, 605
Ground	Consumer Commodity ORM-D	Compressed Gas n.o.s. (Fluorocarbon) 2.2 UN 1956 (Non-Flammable Gas Label)
Air	Aerosols, Non-Flammable 2.2 UN 1950 (Non-Flammable Gas Label)	Compressed Gas n.o.s. (Fluorocarbon) 2.2 UN 1956 (Non-Flammable Gas Label)
Water	Aerosols, Non-Flammable 2.2 UN 1950 (with a capacity of 1000 cu. cm. or less) (No Hazard Labels Required) Boxes or Cartons should be marked (Aerosols UN 1950) only. IMDG page # 2102	Compressed Gas n.o.s. (Fluorocarbon) 2.2 UN 1956 (Non-Flammable Gas Label) IMDG page # 2124
Exceptions	N/A	
Note	Emergency Response Guide Numbers – Consumer Commodity # 171, for Aerosols and Compressed Gas # 126.	

12. REGULATORY

Toxic Substances Control Act (TSCA)/Designated Substances List (DSL):
All ingredients are listed on the TSCA inventory, as well as the Canadian Designated Substances List.

SARA Title III:
Contains Fluorocarbon containing Chlorodifluoromethane (CAS #75-45-6) subject to the reporting requirements of SARA Title III.

Proposition 65
Based on information currently available, this product is not known to contain detectable amounts of any chemicals currently listed under California Proposition 65.

13. OTHER

NFPA: **Fire 1; Health 2; Reactivity 1**
HMIS: **Flammability 1; Health 3; Reactivity 1**

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representations or warranties, either expressed or implied, of merchantability or fitness for a particular use are made hereunder with respect to this information or the product to which information refers.

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APPROVED BY : T. EBERLING
A16152-B

7. HANDLING AND STORAGE

Store in a cool, dry place. Ideal storage temperature is 60°F to 80°F (15.5°C to 26.6°C). Storage above 90°F (32.2°C) will shorten the shelf life. Protect containers from physical abuse. Protect unused product from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read all product instructions before using. Personal protective equipment should include safety eye wear, chemical resistant gloves, and long sleeve work clothes. Adequate ventilation should also be employed so that vapor levels do not exceed recommended guidelines. If vapor levels are expected to exceed these guidelines, use NIOSH/MSHA approved, positive pressure, supplied air respirator. Exercise good personal hygiene, wash thoroughly after each use.

Exposure Guidelines	OSHA	ACGIH
Fluorocarbon (Non-Flammable Compressed Gas, HCFC)	1,000 ppm TWA	1,000 ppm TWA

(None of the components in this product are listed by IARC, NTP, OSHA or ACGIH as a carcinogen).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Appearance	:	Light yellow to amber colored liquid.
Odor	:	Slight fluorocarbon and amine odor.
Specific Gravity	:	Approximately 1.2 (H_2O = 1)
Boiling Point	:	Fluorocarbon component (Non-Flammable Gas) boils at less than 0°F (-17.7°C). Other components boil at temperatures greater than 200°F (93.3°C).
Flash Point	:	For fluorocarbon – None (Non-Flammable). For other components – Not determined
Vapor Pressure	:	Contents under pressure have vapor pressure greater than 50 psig (345.Kpa). After release from container, the vapor pressure is very low (not determined).
Solubility in Water	:	Partly soluble, does not react.
Explosion Data	:	Contents are not known to be sensitive to mechanical impact or static discharge.

10. STABILITY AND REACTIVITY

This product is considered stable under normal and anticipated storage and handling conditions. Do not store above 120°F (49°C). For longest shelf life, avoid storage above 90°F (32.2°C). Avoid uncontrolled reactions with isocyanates (*i.e.* A-Component).